

# FINISHED BASEMENT PERMIT GUIDE



# Table of Contents

1. Introduction.....	3
2. Permit Application.....	4
2.1 Plumbing.....	4
2.2 Electrical.....	5
2.3 Smoke Detectors.....	5
3. Drawings.....	6
3.1. Drawing Details.....	6
3.2. Floor Plan.....	7
3.3. Wall Cross Section.....	8
4. Handrails.....	9
5. Heating and Ventillation.....	11
5.1. Heating.....	11
6. Inspections.....	12

# 1. Introduction

**NOTE:** A room in the basement may not be used as a bedroom unless the room has **two** means of exit: such as an approved door that leads directly to the outside and an egress window.

This guide pertains to one and two family dwellings only. Basement information, finished or unfinished, for any other type of structure will be different than what is detailed in this guide. NJ codes and construction terms will be translated to easily understand what exactly is needed when finishing a basement- regardless of who will be doing the work.

Refer to the NJ Construction Code Communicator for original source codes and other important information. These volumes can be easily found on-line by searching “Construction Code Communicator” followed by the terms you want information for.

Please read each section, as they all include information that is important to each other. The permit chapter doesn’t include any drawing information, but both are mandatory before starting any work. Each chapter will detail exactly what the Code and Construction office will need in order to get your finished basement compliant.

## 2. Permit Application

Applying for a building permit with drawings is the first step in getting your finished basement started. The required forms can be gathered from the Code & Construction office or on the Washington Township website (through the Building Department section).

Please refer to the following list to see which forms and technical sections are required:

- Construction permit application folder (F100)
- Building technical section (F110)
- Include estimated cost of building work
- Electrical subcode technical section (F120)
- Plumbing subcode technical section (F130)
  - If plumbing will be added
- Fire subcode technical section (F140)

**NOTE:** Plumbing and electrical work is recommended to be done by a licensed contractor for your own health and safety.



*An example of a licensed stamp that must be on a plumbing technical section.*

If anyone other than the homeowner performs the electrical or plumbing work, the applicable technical section **MUST** be sealed by the contractor who is performing the work.

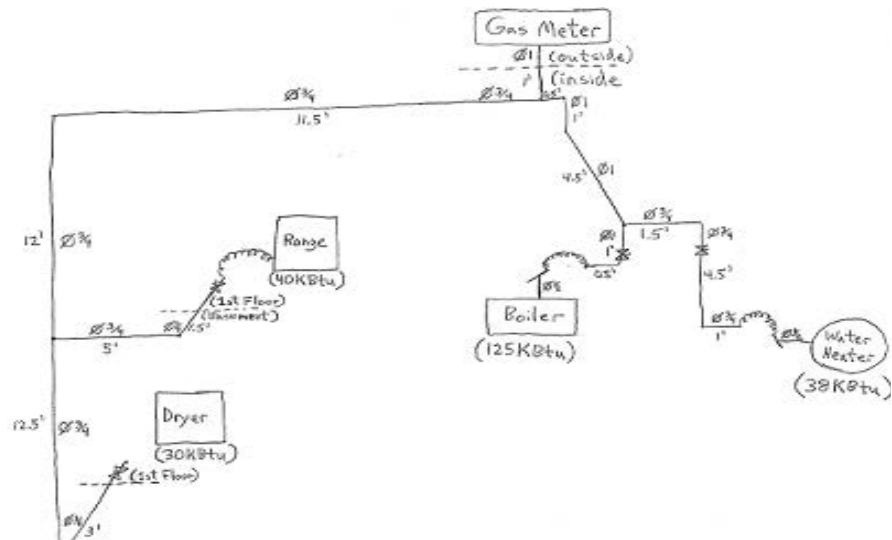
Most finished basements will include electrical work and fire (smoke detectors), but plumbing is not a requirement unless specifically wanted (for sinks, toilets, etc.). Not all permits will include every subcode.

### 2.1 Plumbing

Plumbing permits are required when any new work is being done which includes the following but not limited to: sinks, toilets, tubs, showers, ejection pumps, etc. A Plumbing Riser Diagram is required with the permit application. The diagram will show

pipng layout for all pipe work and heating machines. Contact the Plumbing Subcode Official for additional help with a riser diagram: 908-835-1732.

**NOTE:** A permit fee will need to be collected. Price depends on the cost of work and sub-codes required.



*An example of a riser diagram. It does not need to be professional drawn - just enough to show where the piping is going.*

## 2.2 Electrical

Electrical permits are required when any new electrical work is done. A wiring diagram may be included, though it is not always required.

For additional help with electrical questions or to know if a wiring diagram is required, please contact the Code and Construction office: 908-835-1804.

## 2.3 Smoke Detectors

Smoke detectors are mandatory for any finished basement. Although electrical and plumbing permits may or may not be required- a fire permit is always required.

Hardwired smoke detectors with a battery backup AND a carbon monoxide detector are required within 10 feet of all sleeping areas. A smoke detector must be placed near the bottom of the stairwell.

## 3. Drawings

Drawings must be included with a permit application.

Submit two sets of drawings. All drawings should indicate the owner's name, address of job site, block and lot numbers. To draw your own plans, you must be the owner and occupant of the property. If not, you will need drawings by a New Jersey Registered Architect.

You will see examples of drawings in this section. Note that professional drawings are not required, though the drawing submitted should look like the examples provided. The drawing should depict the finished basement from a "birds-eye-view", the top of the basement looking down- clearly detailing all sections. Using a ruler to mark out walls and sections is helpful, or a drawing program on a computer.

### 3.1 Drawing Details

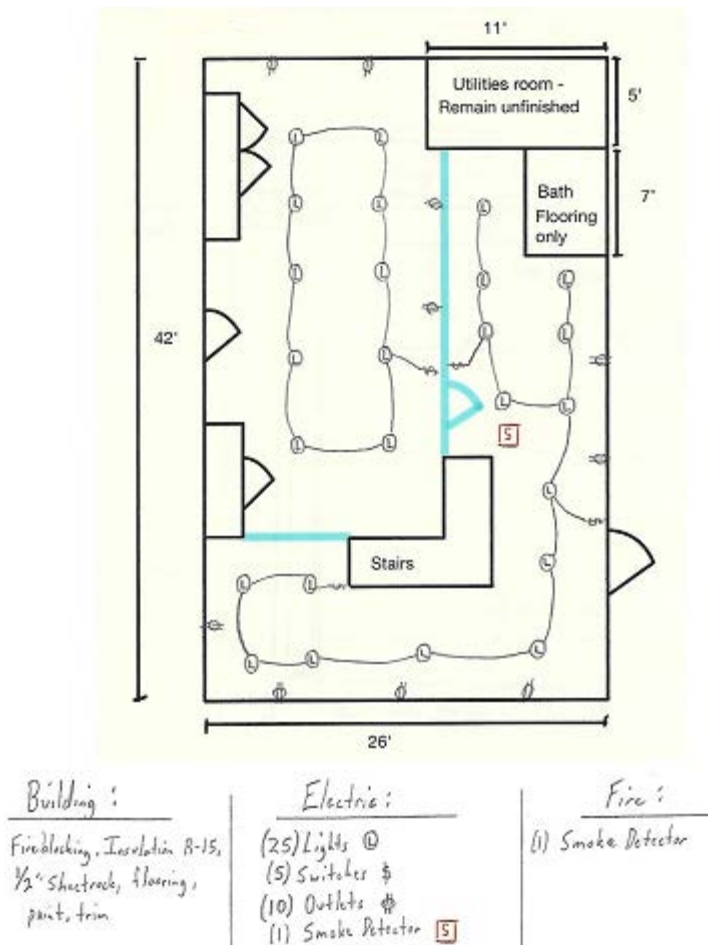
The drawings submitted may include the following:

- |   |   |
|---|---|
| 1. Basement floor plan:   | 2. Wall cross section:  |
| <ul style="list-style-type: none"><li>• Partitions</li><li>• Doors</li><li>• Windows</li><li>• Stairways</li><li>• Guardrails</li><li>• Handrails</li><li>• Closets</li><li>• Columns</li><li>• Electric layout</li><li>• Heating layout</li><li>• Furnace</li><li>• Hot water heater</li><li>• Chimney</li><li>• Floor covering</li><li>• Smoke detectors</li><li>• CO detectors</li></ul> | <ul style="list-style-type: none"><li>• Stud sizes</li><li>• Stud spacing</li><li>• Fire stopping</li><li>• Insulation</li><li>• Wall coverings</li><li>• Ceiling materials</li></ul> |

For more information about heating (including furnaces, water heaters, etc., refer to page 11).

## 3.2 Floor Plan

In this section you will learn more about what exactly each detail is and how to indicate them in a drawing. Refer to the following example to get a good idea of what the Code and Construction office will expect when submitting the drawings:



**NOTE:** Also note that the drawings include the sizes of each section on the outside of the areas by using measurements.

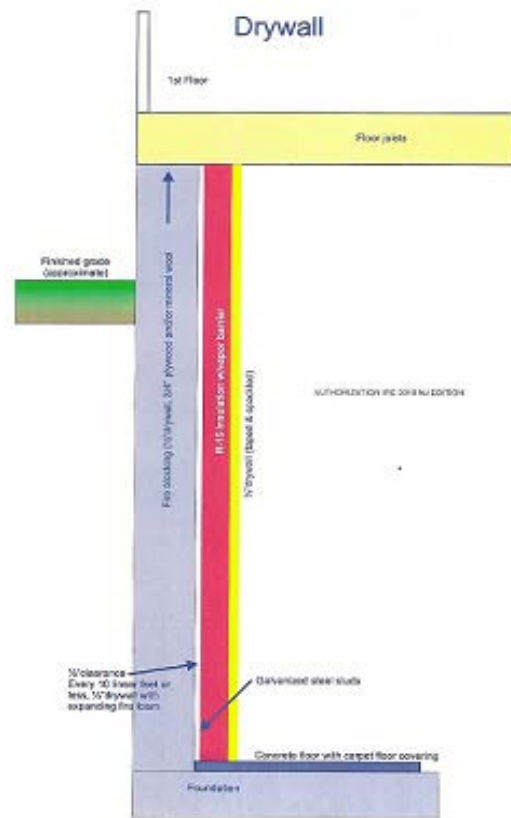
Notice that the drawing offers outlined information. It depicts the layout of the proposed finished basement- indicating walls, doors, smoke detector, stairs etc. Electrical symbols are provided- the outlets, the lights, indicated by symbols. Use symbols and a key to easily identify the electrical work for permit review.

We can provide help with drawings when looking over your submitted permit.



### 3.3 Wall Cross Section

A wall cross section will provide information about the materials and layout of what will be installed onto your basement's walls. This may confuse someone not familiar with wall cross sections, so please our office.



Refer to the following information to learn more about what each item means:

- Insulation: Spray foam insulation is the most common type of insulation that can be installed by a homeowner, but the best option for basement walls is rigid board insulation.

- Stud: Studs are used for the basement's wall framing. They can be either metal or 2x4 wood. Studs should be placed every 16" on center, though you could go up to 24".

- Drywall: Drywall is used as a mold resistor. Basement board is a common DIY drywall, though it isn't the most mold resistant it is the most cost efficient.

- Fire Stop: Fire stop is made to stop fires from getting into the walls of the basement. They are usually made of cut up lumber installed between the concrete wall and stud wall.

**NOTE:** An unfinished basement, built at the time of the house's construction, will have important soil barriers installed beneath the slab and within the concrete walls.



## 4. Handrails

Handrails and guardrails are necessary for any basement stairs, finished or not. This section is dedicated to stairways because of how important they are- not only for Code & Construction but also fire safety concerns.

A stairway with three or more risers requires a handrail.



*An example of a stairway with more than three risers with handrails measuring above 30" from the riser edge.*

Handrails should be smooth and free of any sharp edges or splinters. All handrails must be properly connected to a wall or post.

Shape of a handrail is open to interpretation if it provides the same grasping capability as a straight handrail. Handrails shall not be less than 30 inches nor more than 38 inches, measured vertically, above the leading edge of a step.

The clear space between the handrail and adjacent wall or surface shall not be less than 1 1/2 inches.

Guardrails are required for stairways if no walls are provided to add handrails. Any stairways with no handrails and with four or more risers require guardrails.



*Stairway with balusters close enough that a 4" sphere can not pass through.*

The guardrails must be at least 30" to 38" in height, measured vertically from the leading edge of a step. Guardrails must be constructed so that a sphere with a diameter of 4 inches cannot pass through the balusters- this prevents anyone from getting stuck or falling through the balusters.

Guardrails must be designed and constructed to withstand the load of 200 pounds applied at any point and in any direction along the top railing.

## 5. Heating and Ventilation

Every space intended for human occupancy must be ventilated by natural or mechanical means. Natural ventilation through windows, doors, louvers or other openings to the outdoors will need to be 8 percent of the floor area, otherwise mechanical means is required.

For mechanical ventilation, a system that can circulate fresh air using ducts and fans must be installed. Feel free to contact the Mechanical Inspector for further questions regarding mechanical ventilation – (908) 835-1732.

### 5.1 Heating

Combustion air is required to keep your furnace and hot water heater burning properly. The minimum combustion air which must be provided is 50 cubic feet per 1,000 BTU. BTU is the measurement of the heat content of fuels or energy sources – your furnace or water heater manual will explain these measurements.

Keep in mind that there must be clearance to the combustibles, allowing for maintenance for the equipment and venting. The previous examples details a separate area/room for these type of machines, though a separate room is not required.

## 6. Inspections

With the permit and placard in hand, you can then start the work schedule the inspections.

Inspections required in this order:

1. Rough Electric (if any)
2. Rough Plumbing (if any)
3. Framing
4. Insulation
5. Final Electric (if any)
6. Final Plumbing (if any)
7. Fire/Smoke Detector
8. Final Building

For any inspection questions or concerns, please contact the Construction Official and Building Subcode Official Kyle Smith: 908-835-1837.